

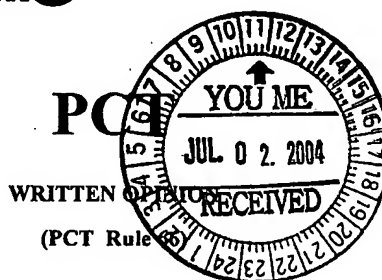
From the  
INTERNATIONAL PRELIMINARY EXAMINING

PATENT COOPERATION TREATY

To:

YOU ME PATENT & LAW FIRM

Teheran Bldg., 825-33 Yoksam-dong, Kangnam-ku, 135-080  
Seoul, Republic of Korea



Date of mailing  
(day/month/year) 28 JUNE 2004 (28.06.2004)

Applicant's or agent's file reference  
OPP030742KR

REPLY DUE within 2 months from  
the above date of mailing

International application No.  
**PCT/KR2003/001212**

International filing date (day/month/year)  
**19 JUNE 2003 (19.06.2003)**

Priority date(day/month/year)  
20 JUNE 2002 (20.06.2002)

International Patent Classification (IPC) or both national classification and IPC

**IPC7 C08G 64/20, C08G 64/02, C08G 64/32, B01J 31/04**

Applicant

**POSCO et al**

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When ? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d)

How ? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3  
For the form and the language of the amendments, see Rules 66.8 and 66.9

Also For an additional opportunity to submit amendments, see Rule 66.4  
For an examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis  
For an informal communication with the examiner, see Rule 66.6

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: **10 OCTOBER 2004 (10.10.2004)**

Name and mailing address of the IPEA/KR  
Korean Intellectual Property Office  
920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

LEE, Suk Ju

Telephone No. 82-42-481-8149



# WRITTEN OPINION

International application No.

PCT/KR2003/001212

## I. Basis of the opinion

### 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☐ the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement) under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☒ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheet/fig \_\_\_\_\_

### 5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."

WRITTEN OPINION

International application No.

PCT/KR2003/001212

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-8	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-8	NO
Industrial applicability (IA)	Claims	1-8	YES
	Claims	None	NO

2. Citations and explanations

D1: US 4,783,445 A

본원 발명의 청구범위 제1항 디카르복실산 전구체와 아연전구체를 가압조건 및 물 중에서 산화 반응시키는 공정을 포함하는 폴리카보네이트 중합용 촉매에 대한 발명이고, 상기 인용문헌 D1(미국특허공보 4,783,445 호 1988.11.08 공고)은 아연전구체와 디카르복실산을 반응시켜 폴리카보네이트의 제조에 필요한 중합용 촉매에 대한 발명입니다.

상기 발명은 아연 전구체와 디카르복실산을 반응시키는 점 있어서 특이한 차이가 없습니다.

다만 인용문헌 D1에 있어서 카르복실산을 직접 아연전구체와 반응시킴에 비하여, 본원 발명은 카르복실산의 전 단계인 카르복실산 전구체를 물에 의하여 산화시킴으로써 카르복실산이 제조되며 이를 이용하여 아연전구체에 착화합물이 되도록 반응시키는 점은 차이가 있으나, 카르복실산 전구체를 물에 의하여 산화시켜 제조된 카르복실산을 사용하는 것과 직접 카르복실산을 사용하는 것은 당업자라면 임의로 선택하여 용이하게 실시할 수 있는 기술적 사항에 지나지 아니하며, 효과에 있어서도 본원 발명은 촉매 1g 당 폴리카보네이트 중합체의 수율이 12g 내지 50g이고, 인용문헌 D1은 촉매 1g 당 12.4g(실시예)로서 인용발명에 비하여 예측하지 못하는 현저한 효과가 나타난다고 볼 수 없는 바, 진보성이 없는 것으로 PCT 제33조제3항을 충족하지 못합니다.

본원 발명의 청구범위 제2항 내지 제7항은 제1항의 종속항으로서 촉매를 제조하기 위하여 아연전구체와 디카르복실산 전구체의 당량비, 산화 반응공정의 온도 및 물과 디카르복실산 전구체의 비율을 수치로 한정하고 있으나, 수치를 한정하는 이유를 상세한 설명에 기재하지 않아 기술적 의의가 없고 수치한정의 임계적의의도 인정할 수 없으며, 아연전구체가 산화아연인 점은 인용문헌D1에 공지되어 있고, 그 이외의 아연 전구체는 산화아연 전구체와 동일범주에 속하는 화합물에 지나지 않습니다. 다만, 디카르복실산 전구체에 대하여는 인용문헌에 기재되어 있지 않으나, 디카르복실산 전구체로서 디올류가 사용되는 점은 당업자라면 임의로 선택할 수 있는 기술적사항에 지나지 않아 진보성이 없는 바, PCT 제33조제3항을 충족하지 못합니다.

청구범위 제8항은 디카르복실산 전구체와 아연전구체를 가압조건 및 물중에서 산화반응시켜 제조된 촉매를 이용하여 이산화탄소와 알킬옥시드와 반응시켜 폴리카보네이트를 제조하는 방법에 대한 발명으로 이산화탄소와 알킬옥시드를 반응시키는 점은 인용문헌 D1에 공지되어 있고, 본원발명에 의하여 제조된 촉매 또한 인용문헌 D1에 의하여 제조된 촉매와 비교하여 진보성이 없는 바, PCT 제33조제3항을 충족하지 못합니다. 끝.